Python Beginner Examination — Solution Key

Part 1: Multiple Choice

1. **B**
2. **B**
3. **B**
4. **C**
5. **C**
6. **B**
7. **B**
8. **C**
9. **B**
10. **A**

Part 2: Complete the Code

11. `n * n`

```
def square(n):
    return n * n
```

12. `startswith`

```
if s.startswith("A"):
```

13. `[1, 2, 3]`

```
numbers = [1, 2, 3]
```

14. `print(char)`

```
for char in "cat":
    print(char)
```

15. `class`

```
class Dog:
    def __init__(self, name):
        self.name = name
```

16. `int(s)`

```
num = int(s)
```

17. `append`

```
lst.append(5)
```

18. `type(x) == int` or `isinstance(x, int)`

```
if type(x) == int:
    print("x is an integer")
```

or

```
if isinstance(x, int):
    print("x is an integer")
```

19. `len(word)`

```
print(len(word))
```

20. `{"a": 1, "b": 2}`

```
my_dict = {"a": 1, "b": 2}
```

Part 3: Full Coding

21. **Reverse a string**

```
def reverse_string(s):
    return s[::-1]
```

22. **Count vowels in a string**

```
def count_vowels(s):
    vowels = "aeiouAEIOU"
    count = 0
    for char in s:
        if char in vowels:
            count += 1
    return count
```

23. **Sentence to list of words**

```
def sentence_to_words(sentence):
    return sentence.split()
```

24. **Check if word is a palindrome**

```python
def is_palindrome(word):
    return word == word[::-1]
```

25. **Rectangle class with area**

```python
class Rectangle:
    def __init__(self, width, height):
        self.width = width
        self.height = height

    def area(self):
        return self.width * self.height
```

26. **Filter even numbers**

```python
def get_even_numbers(nums):
    return [n for n in nums if n % 2 == 0]
```

27. **Parse comma-separated numbers and sum**

```python
def sum_csv_numbers(s):
    return sum(int(n) for n in s.split(','))
```

28. **Check if input is all digits**

```python
s = input()
if s.isdigit():
    print("Only digits")
else:
    print("Contains non-digit characters")
```

29. **Book class**

```python
class Book:
    def __init__(self, title, author):
        self.title = title
        self.author = author

    def get_info(self):
        return f"{self.title} by {self.author}"
```

30. **Parser class that counts letters**

```python
class Parser:
    def __init__(self, s):
        self.s = s

    def count_letters(self):
        return sum(1 for c in self.s if c.isalpha())
```